BTEC Assignment Brief

Qualification	Pearson BTEC International Level 3 Foundation Diploma in Agriculture Pearson BTEC International Level 3 Foundation Diploma in Horticulture Pearson BTEC International Level 3 Diploma in Agriculture Pearson BTEC International Level 3 Diploma in Horticulture Pearson BTEC International Level 3 Extended Diploma in Agriculture Pearson BTEC International Level 3 Extended Diploma in Horticulture
Unit number and title	Unit 23: Land-based Machinery Operations
Learning aims	**B:** Operate land-based machinery safely to complete a practical task **C:** Maintain land-based machinery safely in order to sustain its effectiveness
Assignment title	**Operate and Maintain Agricultural Machinery**
Assessor	
Issue date	
Hand in deadline	

Vocational Scenario or Context	You have applied to a local machinery company to be part of the machinery demonstration team. You want to produce a portfolio of work to demonstrate your extensive knowledge of machinery that you plan to take to future interviews. In the portfolio you will demonstrate that you have operated the machines to show their capabilities. You want to critically review your preparation, maintenance and operation skills and techniques, so that you can look for ways to improve as employers look for continuous improvement.
Task 1	**Task 1** is divided into **2 Parts:** **Part 1: Preparation and operation of Agricultural machines** For Part 1, your tutor will give you two machine-based activities with specific objectives. You must produce a portfolio of evidence to show you can carry out the activities and meet the objectives. Your portfolio must show you can prepare and operate both a **complex** machine (involving a Power Take Off (PTO) and Three Point Hitch or linkage), **and** a **simple** machine. Examples might include: • Complex = Tractor with rear mounted topper/mower • Simple = Walk behind • In your portfolio you should include evidence that shows you can: • Select, transport, maintain and store tools, equipment and materials used to prepare the

	machine • Carry out daily checks on equipment using appropriate tools, equipment and machinery • Check consumables, e.g. fuel, oil, coolant • Set up a machine, e.g. blade height, guards • Carry out pre-start checks • Correctly attach ancillary equipment • Use equipment on a specified task • Follow safe working procedures You must show you can work to a professional standard in terms of efficiency, accuracy and task completion; meeting fully the specified objectives. Your portfolio of evidence could include: • Log book, blog, videos of practical activities carried out • Copies of Manufacturer's instructions on preparation, pre-start and operation. • Completed "Tick Tables" of preparation and start up tasks • Records of practical activity including Observation Records or Witness Statements **Part 2: Review of Preparation and Operation of Agricultural Machines** In Part 2, you must produce a report reviewing your preparation and operation of the machines you used and the tasks you performed for Part 1. Your report should consider how well your preparation and operation of the machines met the objectives you were set. You must make sure you support your views with good reasons and must link your judgements on your performance to the objectives you were set. You should consider using the evidence from your portfolio as part of your review/report. For example: • Reviewing a video or photo log of you preparing or operating a machine • Your assessment of an Observation Record completed by your tutor. • A record of your colleague's views on your performance Remember, a good evaluation will identify and comment on: • Your strengths and areas for development • What you consider to be the most important factors or aspects of the task and your performance in relation to them • What you could do to improve your performance and how you might achieve this.
Checklist of evidence required	• Portfolio of evidence demonstrating your preparation and operation of **two** land-based Agricultural machines.

	• Report reviewing your preparation and operation of **two** land-based Agricultural machines.

Criteria covered by this task:	
Unit/Criteria reference	To achieve the criteria you must show that you are able to:
B.D2	Evaluate own operation of land-based machinery against given objectives.
B.M3	Efficiently use complex land-based machinery to meet given objectives.
B.P3	Safely prepare selected land-based machinery for work.
B.P4	Safely operate simple land-based machinery to meet given objectives.

Task 2	
	Task 2 is concerned with your ability to maintain, service and repair Land-based Agricultural machinery. For **Task 2** you will need to produce a portfolio of evidence that will show you can: • Review the techniques and options for routine servicing, maintenance and repair tasks • Carry out routine operator maintenance for **a** Land-based Agricultural machine. • Carry out servicing and repair of **a** Land-based Agricultural machine • Assess faults for **a** land-based machine and use manufacturer's manuals to identify replacement parts During task completion, you must demonstrate best workplace practice. In particular you must show that you can: . • Work safely and in accordance with relevant legislation including the correct selection and use of PPE. • Ensure the workspace is prepared and cleared correctly • Carry out servicing, repair and maintenance in accordance with operator or manufacturer's manuals • Demonstrate correct tool care • Correctly dispose of waste materials The evidence you will need to provide could include: • Written report of the effectiveness of techniques and practices used to carry out maintenance, servicing and repair tasks. • Written report on the options for maintenance, servicing and repair, e.g. in-house, independent workshop, authorised dealership service centre. • Logbook, blog, video/photo log of your own maintenance, servicing and repair activities • Record(s) of practical activities (Observation Records, Witness Statements). • Specification, completed service logs, job sheets. You must ensure that your evidence considers how the effectiveness of techniques and workshop practice affects the efficiency, accuracy and completeness of tasks undertaken. You must give fully reasoned judgements using

	the correct terminology and that you have considered all the relevant factors.
Checklist of evidence required	• Portfolio of evidence demonstrating your maintenance, servicing and repair of a land-based machine. • Report reviewing the effectiveness of techniques and practices on maintenance, servicing and repair outcomes • Report reviewing the options for maintaining, servicing and repairing land-based machinery.

Criteria covered by this task:	
Unit/Criteria reference	To achieve the criteria you must show that you are able to:
C.D3	Evaluate the effectiveness of techniques used to carry out routine maintenance and repair, and the options available to do this.
C.M4	Assess potential faults on a given land-based machine, using manufacturer's data to specify replacement items during servicing and repair.
C.M5	Carry out efficient routine operator maintenance and appropriate repairs for a chosen land-based machine.
C.P5	Explain the options available for the servicing and repair of land-based machinery.
C.P6	Safely carry out routine operator maintenance and appropriate repairs for a chosen land-based machine.

Sources of information to support you with this Assignment	Books Bell, B; Farm Machinery; Old Pond Publishing Ltd; 2016; ISBN-13: 978-1910456064 Magazines Farm Machinery Journal; farmmachineryjournal.co.uk Manufacturer's Online Catalogues John Deere; deere.co.uk/en/ New Holland; agriculture1.newholland.com/eu/en-uk?market=uk Kubota; http://kubota.hae.org.uk